IN THE CLAIMS

Listing of Claims

Claims 1-10 (Cancelled).

11. (Previously Presented) A direct conversion reception apparatus for use in a system where transmit power varies between transmission signals by downlink transmit power control, the apparatus comprising:

a reception quality measurement section that finds reception quality of a signal of a frame that is comprised of a plurality of time slots and has been received earlier, the reception quality being found on a per time slot basis;

a gain estimation section that estimates, based on the reception quality of individual time slots found in the reception quality measurement section, gains for amplifying a signal of a frame that is going to be received, to a predetermined reference value, before a reception period of the signal that is going to be received, the gains being estimated on a per time slot basis;

a gain control section that selects a maximum gain in a same frame, from the gains of individual time slots estimated in the gain estimation section, and, using the gains of individual time slots, performs gain control during the reception period of the frame that is going to be received, on a per time slot basis; and

a voltage calibration section that calibrates an offset voltage of the signal of the frame that is going to be received, on a per frame basis, before the reception period of the frame that is

going to be received, using a calibration value matching the maximum gain selected in the gain control section.

12. (Previously Presented) The reception apparatus according to claim 11, wherein:

the reception quality measurement section finds a reception field intensity that serves as a control reference in transmit power control for time slots, from the reception quality of individual time slots; and

the gain estimation section estimates the reception field intensities of individual time slots of the frame that is going to be received, from the reception field intensity and transmit power information of individual time slots of the frame that has been received earlier, the transmit power information being included in demodulated data of the frame that has been received earlier, and estimates the gains of individual time slots according to the reception field intensities of the time slots of the frame that is going to be received.

13. (Previously Presented) The reception apparatus according to claim 11, wherein, when a difference between an average gain of the gains of individual time slots in a reception period of the frame that has been received earlier, and a minimum gain among the gains of individual time slots in the reception period of the frame that has been received earlier, is equal to or greater than a threshold, the gain estimation section estimates the gains of individual time slots of the frame that is going to be received, by excluding a measurement value of the time slot of the minimum gain.

14. (Previously Presented) The reception apparatus according to claim 11, wherein, when a difference between a maximum gain among the gains of individual time slots in a reception period of the frame that has been received earlier, and a minimum gain among the gains of individual time slots in the reception period of the frame that has been received earlier, is equal to or greater than a threshold, the gain estimation section estimates the gains of individual time slots of the frame that is going to be received, by excluding a measurement value of the time slot of the minimum gain.

15. (Previously Presented) The reception apparatus according to claim 12, wherein the gain estimation section subtracts increment and decrement values of transmit power indicated in the transmit power information from the reception field intensity on a per time slot basis and estimates transmit powers of individual time slots, and estimates the gains of individual time slots for amplifying a received signal of an estimated transmit power to the predetermined reference value.

16. (Previously Presented) The reception apparatus according to claim 12, wherein:

the gain estimation section sequentially sets the gains for amplifying a received signal to the predetermined reference value through a plurality of stages, in the reception period of the frame that is going to be received, on a per stage basis, such that a gain in an earlier stage in the plurality of stages is equal to or greater than a gain in a later stage; and

the gain control section performs gain control of the received signal on a per stage basis in the reception period of the frame that is going to be received, using the gains of individual stages set in the gain estimation section.

17. (Previously Presented) A direct conversion reception method for use in a system where transmit power varies between transmission signals by downlink transmit power control, the method comprising the steps of:

finding reception quality of a signal of a frame that is comprised of a plurality of time slots and has been received earlier, the reception quality being found on a per time slot basis;

estimating, based on the reception quality of individual time slots, gains for amplifying a signal of a frame that is going to be received, to a predetermined reference value, before a reception period of the signal that is going to be received, the gains being estimated on a per time slot basis;

selecting a maximum gain in a same frame, from the gains of individual time slots, and, using the gains of individual time slots, performing gain control during the reception period of the frame that is going to be received, on a per time slot basis; and

calibrating an offset voltage of the signal of the frame that is going to be received, on a per frame basis, before the reception period of the frame that is going to be received, using a calibration value matching the maximum gain selected.

18. (Previously Presented) The direct conversion reception method according to claim 17, wherein:

a reception field intensity that serves as a control reference in transmit power control for time slots is found from the reception quality of individual time slots; and

the reception field intensities of the time slots of the frame that is going to be received are estimated from the reception field intensity and transmit power information of individual time slots of the frame that has been received earlier, the transmit power information being included in demodulated data of the frame that has been received earlier, and the gains of individual time slots are estimated according to the reception field intensities of the time slots of the frame that is going to be received.

19. (Previously Presented) A semiconductor integrated circuit apparatus in a direct conversion reception apparatus for use in a system where transmit power varies between transmission signals by downlink transmit power control, the semiconductor integrated circuit apparatus comprising:

a reception quality measurement circuit that finds reception quality of a signal of a frame that is comprised of a plurality of time slots and has been received earlier, the reception quality being found on a per time slot basis;

a gain estimation circuit that estimates, based on the reception quality of individual time slots found in the reception quality measurement circuit, gains for amplifying a signal of a frame that is going to be received, to a predetermined reference value, before a reception period of the signal that is going to be received, the gains being estimated on a per time slot basis;

a gain control circuit that selects a maximum gain in a same frame, from the gains of individual time slots estimated in the gain estimation circuit, and, using the gains of individual

time slots, performs gain control during the reception period of the frame that is going to be received, on a per time slot basis; and

a voltage calibration circuit that calibrates an offset voltage of the signal of the frame that is going to be received, on a per frame basis, before the reception period of the frame that is going to be received, using a calibration value matching the maximum gain selected in the gain control circuit.

20. (Previously Presented) The semiconductor integrated circuit apparatus according to claim 19, wherein:

the reception quality measurement circuit finds a reception field intensity that serves as a control reference in transmit power control for time slots, from the reception quality of individual time slots; and

the gain estimation circuit estimates the reception field intensities of the time slots of the frame that is going to be received, from the reception field intensity and transmit power information of individual time slots of the frame that has been received earlier, the transmit power information being included in demodulated data of the frame that has been received earlier, and estimates the gains of individual time slots according to the reception field intensities of the time slots of the frame that is going to be received.